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PROJECT NO. 52373

**REVIEW OF ELECTRIC WHOLESALE § BEFORE THE
MARKET DESIGN § PUBLIC UTILITY COMMISSION OF
§ TEXAS**

**ONCOR ELECTRIC DELIVERY COMPANY LLC'S
RESPONSE TO QUESTIONS REGARDING
RESIDENTIAL DEMAND RESPONSE/RELIABILITY**

TO THE HONORABLE PUBLIC UTILITY COMMISSION OF TEXAS:

Oncor Electric Delivery Company LLC ("Oncor") files this Response to the memorandum posing questions for comment filed in this project by the Public Utility Commission of Texas ("PUC" or "Commission") on September 2, 2021.

I. EXECUTIVE SUMMARY

See Attachment 1.

II. RESPONSE TO QUESTIONS

1. Describe existing and potential mechanisms for residential demand response in the ERCOT market.

Residential demand response ("RDR") is offered through the Electric Reliability Council of Texas ("ERCOT"), transmission and distribution utilities ("TDUs"), retail electric providers ("REPs"), third party competitive service providers, and aggregation groups, such as thermostat providers and security companies. Air conditioners, heaters, pool pumps, and water heaters are the primary energy consuming devices in the home. RDR focuses on reducing the consumption of these devices by remotely adjusting temperature settings and turning the device(s) off for a short period of time. RDR programs in Texas concentrate on controlling air conditioning loads through smart thermostats. To make the programs sustainable year-round, providers must expand control to other devices during winter and shoulder months, and consider making participation compulsory rather than optional in real time.

a. Are consumers being compensated (in cash, credit, rebates, etc.) for their demand response efforts in any existing programs today, and if not, what kind of program would establish the most reliable and responsive residential demand response?

Most consumers sign up for RDR through promotions. Some sign up through REPs and receive free thermostats, others purchase household equipment, such as alarm systems that may come with free smart thermostats. The thermostat companies themselves also offer RDR

programs. Enrolled thermostats are aggregated by the third party vendor, and participate in TDU or ERCOT programs. Unfortunately, the program details are typically in small print and are rarely read by the consumer. An RDR test event earlier this summer gained media attention when consumers reported that their thermostat was being controlled without their knowledge; the customers had signed up for an RDR program through their alarm company.

Although compensating all consumers who reduce consumption is impractical, providing consumer education, requiring clear contracts, and developing innovative ways of providing value to the consumer are important for RDR programs to be successful, and produce reliable load reduction. Ongoing participation will be an issue if load management is actively called for throughout the year, and consumers will need to feel that the value they receive is worth the discomfort during program use.

b. Do existing market mechanisms (e.g., financial cost of procuring real time energy in periods of scarcity) provide adequate incentives for residential load serving entities to establish demand response programs? If not, what changes should the Commission consider?

Current mechanisms, market incentives, and rules are sufficient to deliver existing programs. However, if the Commission wants to expand RDR as a grid management resource, refining market operating rules and restrictions are needed. Several areas for investigation include:

- **TDU Programs.** Review which programs should continue to be offered through the TDU energy efficiency vendor system and which programs may be offered more efficiently directly by the TDU. Direct-to-customer programs may elicit more customer participation. Irrespective of the model, energy efficiency goals must be modified to afford year-round applicability.
- **REP/TDU/ERCOT coordination.** Customers can choose different programs, such as ERS, TDU load management, and REP economic-dispatched programs. These programs ensure multiple tiers of load management are available during ERCOT emergencies, but participants should not be allowed to “double-dip” for the same capacity in multiple programs.
- **Market impact.** Expanded load management programs can affect wholesale markets.
- **Real-time deliverability.** Any RDR must be capable of addressing specific grid needs in response to ERCOT instructions.
- **Accountability and compliance.**

- **Customer value.** RDR on a programmatic level will be unsustainable unless the customer finds value in exchange for the inconvenience.

2. What market design elements are required to ensure reliability of residential demand response programs?

- a. What command/control and reporting mechanisms need to be in place to ensure residential demand response is committed for the purpose of a current operating plan (COP)?**
- b. Typically, how many days in advance can residential demand response commit to being available?**

Current load management programs are not part of the COP, and are not typically scheduled as a resource in the generation/wholesale market. Current programs are designed to directly respond to ERCOT system-wide or local emergencies, or assist REPs in managing their portfolio of contractual loads. Significant market changes would be necessary to implement load management as an actively managed resource in the generation/wholesale market. Furthermore, this modification would make real-time operations more complex and unpredictable for transmission and distribution system operators. Extensive load management programs could have unintended consequences for reliability and market economics. The Commission should determine the scope and objectives it wishes to address when using load management.

3. How should utilities' existing programs, such as those designed pursuant to 16 TAC §25.181, be modified to provide additional reliability benefits?

Existing TDU load management programs are offered only during the ERCOT 4CP summer months, when they provide additional voluntary load reduction during ERCOT system emergencies. Under current PUC rules, these programs can be increased but only to provide additional summer load management capabilities.¹ Addressing events like winter storm Uri in the context of energy efficiency programs would require different energy efficiency performance metrics with year-round applicability. The program design also should address event trigger, timing, and duration. The overall program design could be a series of short duration programs (e.g., monthly, quarterly, seasonal) to address different equipment and curtailment strategies.

- a. What current impediments or obstacles prevent these programs from reaching their full potential?**

¹ TDU non-residential load management programs are expressly authorized for the remaining months of the year pursuant to Senate Bill 3, but the expansion appears to occur outside of the traditional energy efficiency programs, and the authorization does not include residential load management.

Currently, 16 TAC §25.181 allows only demand savings achieved during defined peak periods to count toward energy efficiency goals and be recovered through the energy efficiency cost recovery factor (“EECRF”). Removing peak period restrictions specifically for load management programs would allow TDUs to address Commission objectives and response to ERCOT emergencies. Other issues related specifically to expanded load management programs include:

- Reconsidering competitive services definitions, and payments directly to customers within the scope of expanded load management programs;
- Cost recovery and energy efficiency goal attribution of expanded programs;
- Energy efficiency conservation load factor limitations;
- Coordination of ERCOT ERS, TDU, and REP program participants to prevent double counting resources;
- Consistent calculation of reported savings (Texas Technical Reference Manual);
- Critical load/critical care customer restrictions; and
- Recruitment of new third party providers that have control capabilities over devices other than air conditioning to support shoulder/winter months.

4. Outside of the programs contemplated in Question 3, what business models currently exist that provide residential demand response?

a. What impediments or obstacles in the current market design or rules prevent these types of business models from increasing demand response and reliability?

Other load management business models exist across the U.S. and may need to be adapted to operate in the extreme and persistent conditions of Texas weather and within the wholesale and retail ERCOT market. After the PUC makes policy determinations for expanded load management programs, current and new participants could determine whether other program designs can be adapted to operate in ERCOT.

5. What changes should be made to non-residential load-side products, programs, or what programs should be developed to support reliability in the future?

Responses to Question Nos. 2-4 above attempt to identify Residential and Commercial load management issues that require resolution before expanding programs beyond the current scope. Oncor has not attempted to describe, much less suggest modification to, the variety of residential programs offered through the competitive market. Existing TDU programs provide a valuable summer load management resource and have the capacity to grow into year round programs if

given the proper regulatory treatment. Depending on the Commission's objectives for load management in Texas, a layered or tiered approach to load management could address market needs as well as protect grid resources.

III. CONCLUSION

Oncor appreciates the opportunity to provide this Response to the Commission's Questions for Comment.

Respectfully submitted,

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ATTACHMENT 1

EXECUTIVE SUMMARY

- RDR is offered through ERCOT, TDUs, REPs, and third party competitive service providers, and aggregation groups such as thermostat providers and security companies.
- The PUC must determine how much demand response can be quantified and compensated, and how much will occur through pricing signals or public response to calls for conservation.
- Although compensating all participating RDR consumers is impractical, providing consumer education, requiring clear contracts, and developing innovative ways of providing value to the consumer are important for RDR programs to be successful and produce reliable load reduction.
- Current programs are designed to directly respond to ERCOT emergencies or assist REPs in managing their portfolio of contractual loads. Significant market changes would be necessary to implement load management as an actively managed resource in the generation/wholesale market. For example, voluntary load shed during an ERCOT emergency, versus using load management as an active resource for controlling local or market prices, are very different goals that would require different approaches, market actors, and requirements.
- Existing TDU load management programs are offered only during the ERCOT 4CP summer months, when they provide additional voluntary load reduction during ERCOT system emergencies. Under current PUC rules, these programs can be increased but only to provide additional summer load management capabilities.² Addressing events like winter storm Uri in the context of energy efficiency programs would require different energy efficiency performance metrics with year-round applicability. The program design also should address event trigger, timing, and duration.
- RDR programs in Texas concentrate on reducing customer energy consumption during summer peak. It appears that all such programs are optional in real time, *i.e.*, a customer can override the program instruction by adjusting his thermostat. To make the programs sustainable year-round, providers must expand control to other devices during winter and

² TDU non-residential load management programs are expressly authorized for the remaining months of the year pursuant to Senate Bill 3, but the expansion appears to occur outside of the traditional energy efficiency programs, and the authorization does not include residential load management.

shoulder months, and consider making participation compulsory rather than optional in real time.

- Other load management business models exist across the U.S., but may need to be adapted to operate in a deregulated market as those programs are designed to address the specific needs of the wholesale system operator and local utility.